

[illegible]

(a) a polynucleotide encoding amino acids from about 1 to about 211 of SEQ

ID NO:4;

(b) a polynucleotide encoding amino acids from about 2 to about 211 of SEQ

ID NO:4;

(c) a polynucleotide encoding amino acids from about 1 to about 169 of SEQ

ID NO:4;

(d) a polynucleotide encoding amino acids from about 187 to about 211 of

SEO ID NO:4;

(e) a polynucleotide encoding amino acids from about 170 to about 186 of

SEQ ID NO:4;

(f) a polynucleotide encoding amino acids from about 59 to about 193 of SEQ

ID NO:4;

(g) a polynucleotide encoding at least 30 contiguous amino acids of SEQ ID NO:4;

(h) a polynucleotide encoding the amino acid sequence of a fragment of the polypeptide shown as amino acids 1 to 211 of SEQ ID NO:4, wherein said fragment has fibroblast growth factor activity;

(i) the polynucleotide complement of (a), (b), (c), (d), (e), (f), (g), or (h); and

(j) a polynucleotide at least 90% identical to the polynucleotide of (a), (b), (c), (d), (e), (f), (g), or (h).

2. An isolated nucleic acid molecule which comprises 20-600 contiguous nucleotides from the coding region of SEQ ID NO:3.

3. The isolated nucleic acid molecule of claim 2, which comprises 60-400 contiguous nucleotides from the coding region of SEQ ID NO:3

4. The isolated nucleic acid molecule of claim 3, which comprises 200-300 contiguous nucleotides from the coding region of SEQ ID NO:3.

5. An isolated nucleic acid molecule comprising a polynucleotide encoding a polypeptide wherein, except for at least one conservative amino acid substitution, said polypeptide has an amino acid sequence selected from the group consisting of:

- (a) amino acids from about 1 to about 211 of SEQ ID NO:4;
- (b) amino acids from about 2 to about 211 of SEQ ID NO:4;
- (c) amino acids from about 170 to about 186 of SEQ ID NO:4;
- (d) amino acids from about 1 to about 169 and from about 187 to about 211 of SEQ ID NO:4, wherein said amino acids at positions about 169 and about 187 are joined by a peptide bond; and
- (e) amino acids from about 59 to about 193 of SEQ ID NO:4.

6. The isolated nucleic acid molecule of claim 1, which is DNA.

7. A method of making a recombinant vector comprising inserting a nucleic acid molecule of claim 1 into a vector in operable linkage to a promoter.

8. A recombinant vector produced by the method of claim 7.

9. A method of making a recombinant host cell comprising introducing the recombinant vector of claim 8 into a host cell.

10. A recombinant host cell produced by the method of claim 9.

12. An isolated polypeptide comprising amino acids at least 95% identical to amino acids selected from the group consisting of:

13. An isolated polypeptide wherein, except for at least one conservative amino acid substitution, said polypeptide has an amino acid sequence selected from the group consisting of:

14. An isolated polypeptide comprising amino acids selected from the group consisting of:

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- (c) amino acids from about 170 to about 186 of SEQ ID NO:4;
- (d) amino acids from about 1 to about 169 and from about 187 to about 211 of SEQ ID NO:4, wherein said amino acids at positions about 169 and about 187 are joined by a peptide bond; and
- (e) amino acids from about 59 to about 193 of SEQ ID NO:4.

15. An epitope-bearing portion of the polypeptide of SEQ ID NO:4.

16. The epitope-bearing portion of claim 15, which comprises between 10 and 50 contiguous amino acids of SEQ ID NO:4.

17. The epitope-bearing portion of claim 15, which comprises a polypeptide selected from the group consisting of amino acids RDGARSKRHQKFTH (SEQ ID NO:5) and QLAHLHGILRRRQLY (SEQ ID NO:6).

18. An isolated antibody that binds specifically to the polypeptide of claim 12.

19. An isolated antibody that binds specifically to the polypeptide of claim 13.

20. An isolated antibody that binds specifically to the polypeptide of claim 14.

21. A pharmaceutical composition comprising the polypeptide of claim 12, in combination with a pharmaceutically acceptable carrier.

22. A method for providing trophic support for cells in a patient in need thereof, the method comprising administering to the patient a composition comprising a polynucleotide encoding the polypeptide of SEQ ID NO:4.

23. The method of claim 22 wherein the patient suffers from Parkinson's disease.

24. A method for providing trophic support for cells in a patient in need thereof, the method comprising administering to the patient a composition comprising a polypeptide of SEQ ID NO:4.

25. The method of claim 24 wherein the patient suffers from Parkinson's disease.

26. The method of claim 25 wherein the patient suffers from a condition affecting the substantia nigra.

27. A method of alleviating a disease condition in the brain of a human patient wherein said disease condition is alleviated by at least one method selected from the group consisting of slowing degeneration of, restoring function of, and increasing the number of, dopaminergic neurons in said human patient, said method comprising administering to said patient a pharmaceutically effective composition comprising a polypeptide having the amino acid sequence of SEQ ID NO:4.

28. A method of alleviating a disease condition in the brain of a human patient wherein said disease condition is alleviated by at least one method selected from the group consisting of slowing degeneration of, restoring function of, and increasing the number of, dopaminergic neurons in said human patient, said method comprising administering to said patient a pharmaceutically effective composition comprising a polynucleotide encoding the amino acid sequence of SEQ ID NO:4.

29. The method of claim 28 wherein said polynucleotide has the sequence of SEQ ID NO:3.



- (d) a polynucleotide encoding amino acids from about 187 to about 212 of SEQ ID NO:2;
- (e) a polynucleotide encoding amino acids from about 170 to about 186 of SEQ ID NO:2;
- (f) a polynucleotide encoding amino acids from about 59 to about 193 of SEQ ID NO:2;
- (g) a polynucleotide encoding at least 30 contiguous amino acids of SEQ ID NO:2;
- (h) a polynucleotide encoding the amino acid sequence of a fragment of the polypeptide shown as amino acids 1 to 212 of SEQ ID NO:2, wherein said fragment has fibroblast growth factor activity;
- (i) a polynucleotide encoding the amino acid sequence of a fragment of the polypeptide shown as amino acids 1 to 212 of SEQ ID NO:2, wherein said fragment has fibroblast growth factor activity.
- (j) the polynucleotide complement of (a), (b), (c), (d), (e), (f), (g), (h), or (i);
- and
- (k) a polynucleotide at least 90% identical to the polynucleotide of (a), (b), (c), (d), (e), (f), (g), (h), or (i).

35. An isolated nucleic acid molecule which comprises 20-600 contiguous nucleotides from the coding region of SEQ ID NO:1.

36. The isolated nucleic acid molecule of claim 35, which comprises 60-400 contiguous nucleotides from the coding region of SEQ ID NO:1.

37. The isolated nucleic acid molecule of claim 36, which comprises 200-300 contiguous nucleotides from the coding region of SEQ ID NO:1.





45. An isolated polypeptide comprising amino acids at least 95% identical to amino acids selected from the group consisting of:

- (a) amino acids from about 1 to about 212 of SEQ ID NO:2;
- (b) amino acids from about 2 to about 212 of SEQ ID NO:2;
- (c) amino acids from about 170 to about 186 of SEQ ID NO:2;
- (d) amino acids from about 1 to about 169 and from about 187 to about 212 of

SEQ ID NO:2, wherein said amino acids at positions about 169 and about 187 are joined by a peptide bond; and

- (e) amino acids from about 59 to about 193 of SEQ ID NO:2.

46. An isolated polypeptide wherein, except for at least one conservative amino acid substitution, said polypeptide has an amino acid sequence selected from the group consisting of:

- (a) amino acids from about 1 to about 212 of SEQ ID NO:2;
- (b) amino acids from about 2 to about 212 of SEQ ID NO:2;
- (c) amino acids from about 170 to about 186 of SEQ ID NO:2;
- (d) amino acids from about 1 to about 169 and from about 187 to about 212 of

SEQ ID NO:2, wherein said amino acids at positions about 169 and about 187 are joined by a peptide bond; and

- (e) amino acids from about 59 to about 193 of SEQ ID NO:2.

47. An isolated polypeptide comprising amino acids selected from the group consisting of:

- (a) amino acids from about 1 to about 212 of SEQ ID NO:2;
- (b) amino acids from about 2 to about 212 of SEQ ID NO:2;
- (c) amino acids from about 170 to about 186 of SEQ ID NO:2;
- (d) amino acids from about 1 to about 169 and from about 187 to about 212 of

SEQ ID NO:2, wherein said amino acids at positions about 169 and about 187 are joined by a peptide bond; and

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